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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,772	10/18/2003	Robert Vande Hey	VA-45005	9534

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EXAMINER	
CAJILIG, CHRISTINE T	
ART UNIT	PAPER NUMBER
3637	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/688,772	HEY ET AL.	
	Examiner	Art Unit	
	Christine T. Cajilig	3637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *4-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 October 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☒ Other: *Foreign Reference*.

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "48," "48a," and "28TYP" have both been used to designate the non-uniform reinforcing ribs. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: lines 7-7 and 8-8 in paragraph 0027; 120, 122, 124, 140, 142, 144, 146, 148, and 150 in paragraph 0036. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37

CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 48a in Figures 6 and 9. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to because (1) some of the reference numbers are unclear and needs to be typed and (2) the photographs for Figures 18-20 are very unclear. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: The word "if" in paragraph 0032 should read as "—of—."

Appropriate correction is required.

The incorporation of essential material in the specification by reference to an unpublished U.S. application, foreign application or patent, or to a publication, "VANDE HEY-RALEIGH., INC. "LIGHTWEIGHT SLATE – INSTALLATION AND SPECIFICATION MANUAL" is improper. Applicant is required to amend the disclosure to include the material incorporated by reference, if the material is relied upon to overcome any objection, rejection, or other requirement imposed by the Office. The amendment must be accompanied by a statement executed by the applicant, or a

practitioner representing the applicant, stating that the material being inserted is the material previously incorporated by reference and that the amendment contains no new matter. 37 CFR 1.57(f).

Claim Objections

Claim 6 is objected to because of the following informalities: The word "had lap" in line 2 of the claim should read as "—head lap—." Appropriate correction is required.

Claim 4 is objected to because of the following informalities: Subheadings, d), e), and f), should be rewritten as "c)," "d)," and "e)" respectively. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 5, 12, and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The fourth line of claims 5, 12, and 19 recite, "the lower closed end [of the side overlap] overlaps the lower open end of the waterlock." There is no support for this in the specification because the lower closed

end cannot overlap the lower open end of the waterlock of the same tile. The lower closed end would only be capable of overlapping the lower open end of the waterlock of an adjacent tile when assembled.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22 recites the limitation "said side-to-side self-centering" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4, 7, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elzey (U.S. Patent No. 1,124,001) in view of Batcheller (U.S. Patent No. 1,740,217) and Papsdorf (U.S. Patent No. 4,787,190).

Regarding claim 4, Elzey discloses a molded composite roofing tile with a front and a back, a top and bottom, and opposite outer sides; the tile comprising, an image

section (1) with a plurality of tile or shingle images (A, B) having backsides (c) raised from a datum plane (D), a substantially constant front-to-back thickness (as shown in Figure 3), bottom edges (2) that establish the bottom of the image section, and outer sides (20, 20a) that establish opposite outer sides of the image section; the back of said image section having support surfaces (E, F) at said datum plane, and reinforcing ribs (4) extending rearwardly to no further than said datum plane; a head lap (G) with an upper waterlock (8) along the top of the image section, the upper waterlock being configured to resist flow of water over the top thereof and for controlled water flow therefrom, and laterally spaced fastener-receiving formations (6); a side water lock (16) along one of said outer sides of the image section; and a side overlap (H) facing rearwardly along the other of said outer sides of the image section, the side overlap being configured for positioning into the side waterlock of an adjacent tile when installed onto a roof. Elzey does not disclose that said reinforcing ribs are non-uniform and fastener-supports extending rearwardly to said datum. However, Batcheller in Figure 2, discloses non-uniform reinforcement ribs (26, 27, 31, 32, 33). Therefore, it would have been obvious for a person having ordinary skill in the arts at the time of the Applicant's invention to modify the roof tile of Elzey to include non-uniform reinforcement ribs as taught by Batcheller to strengthen the body of the shingle and prevent buckling (see Page 2, Ln125-130). Moreover, Papsdorf discloses a roofing tile with fastener-supports (53) extending rearwardly to a datum plane (plane of line 14). Therefore, it would have been obvious for a person having ordinary skill in the arts at the time of the Applicant's

invention to modify the roof tile of Elzey to include fastener-supports extending rearwardly to said datum as taught by Papsdorf to provide support for the fastener.

Regarding claim 7, Elzey modified by Batcheller and Papsdorf discloses a roof tile as discussed above and further discloses that the side waterlock and side overlap are configured to establish side-to-side self-centering adjustment between adjacent tiles when installed onto a roof (as shown in Figure 5).

Regarding claim 9, Elzey modified by Batcheller and Papsdorf discloses a roof tile as discussed above and further discloses that the head lap includes a shelf (J) along the length thereof, and the fastener-receiving formations (6) are raised (7) from said shelf to separate fastener therein from water that may be on the shelf.

Regarding claim 10, Elzey modified by Batcheller and Papsdorf discloses a roof tile as discussed above and further discloses that the fastener-receiving formations (6) are provided with tapered counter-sunk holes (as shown in outline form in Figure 3) to establish a snug fit with correspondingly sized tapered heads of fasteners used to secure the tile to a roof.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elzey in view of Batcheller and Papsdorf as applied to claim 4 above, and further in view of Noone et al. (U.S. Pat. No. 6,178,703 B1).

Regarding claim 5, Elzey modified by Batcheller and Papsdorf discloses a roof tile as discussed above and further discloses that the side waterlock terminates at a closed upper end (18) proximate the top of the head lap and an open lower end (17)

proximate but above the bottom (2) of the image section, and the side overlap has an open upper end (24) below the upper closed end (18) of the side waterlock for adjustable top-to-bottom positioning of the side waterlock and side overlap of adjacent installed tiles, and thus for adjustable exposure of the images of said tiles when installed onto a roof, but does not disclose that the side overlap terminates at a closed lower end capable of overlapping the lower open end of an adjacent side waterlock. However, Noone et al. discloses a roof tile where the side overlap (16) terminates at a closed lower end (41) and has an open upper end (38). Therefore, it would have been obvious for a person having ordinary skill in the arts at the time of the Applicant's invention to modify the roof tile of Elzey already modified by Batcheller and Papsdorf to have the side overlap terminate at a closed lower end which is capable of overlapping the lower open end of an adjacent side waterlock as taught by Noone et al. to provide an interlocking relationship with better resistance to rain penetration (see Col 5, Ln 8-13).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elzey in view of Batcheller and Papsdorf as applied to claim 4 above, and further in view of Fifield et al. (U.S. Pat. No. 5,070,671).

Regarding claim 6, Elzey modified by Batcheller and Papsdorf discloses a roof tile as discussed above, but does not disclose laterally aligned tile-positioning lugs extending rearwardly from the back of the head lap to beyond said datum plane for guided positioning of the roofing tiles onto laterally extending battens on a roof.

However, Fifield discloses a roofing tile with laterally aligned tile-positioning lugs (9) extending rearwardly from the back of the head lap (1) to beyond a datum plane (plane established by the surface of 3) for guided positioning of the roofing tiles onto laterally extending battens on a roof. Therefore, it would have been obvious for a person having ordinary skill in the arts at the time of the Applicant's invention to modify the roof tile of Elzey already modified by Batcheller and Papsdorf to have laterally aligned tile-positioning lugs extending rearwardly from the back of the head lap to beyond said datum plane for guided positioning of the roofing tiles onto laterally extending battens on a roof as taught by Fifield et al. to provide a locating means from which to hang the roof tile on the battens (as shown in Figure 12).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elzey in view of Batcheller and Papsdorf as applied to claim 4 above, and further in view of Bremer (U.S. Pat. No. 2,482,835).

Regarding claim 8, Elzey modified by Batcheller and Papsdorf discloses a roof tile as discussed above and further discloses that the upper water lock (G) includes an upper dam (9) and a side dam (10) on the side of the overlap and a lower water-guide (13) for draining onto the image section, but does not disclose an open side opposite the side dam for draining into the side waterlock. However, Bremer discloses a roof tile wherein there is an open side (a) opposite a side dam (b) for draining into the side waterlock (9). Therefore, it would have been obvious for a person having ordinary skill in the arts at the time of the Applicant's invention to modify the roof tile of Elzey already

modified by Batcheller and Papsdorf to have an open side opposite the side dam for draining into the side waterlock as taught by Bremer so that water may drain out of the head lap and into a channel.

Claims 11, 14, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elzey (U.S. Patent No. 1,124,001) in view of Papsdorf (U.S. Patent No. 4,787,190).

Regarding claim 11, Elzey discloses a molded composite roofing tile with a front and a back, a top and bottom, and opposite outer sides; the tile comprising, an image section (1) with a plurality of tile or shingle images (A, B) having backsides (c) raised from a datum plane (D), a substantially constant front-to-back thickness (as shown in Figure 3), bottom edges (2) that establish the bottom of the image section, and outer sides (20, 20a) that establish opposite outer sides of the image section, and a visually distinct divider (a) extending adjacent each of the images; the back of said image section having support surfaces (E, F) at said datum plane, and reinforcing ribs (4) extending rearwardly to no further than said datum plane; a head lap (G) with an upper waterlock (8) along the top of the image section, the upper waterlock being configured to resist flow of water over the top thereof and for controlled water flow therefrom, and laterally spaced fastener-receiving formations (6); a side water lock (16) along one of said outer sides of the image section; and a side overlap (H) facing rearwardly along the other of said outer sides of the image section, the side overlap being configured for positioning into the side waterlock of an adjacent tile when installed onto a roof. Elzey

does not disclose fastener-supports extending rearwardly to said datum. However, Papsdorf discloses a roofing tile with fastener-supports (53) extending rearwardly to a datum plane (plane of line 14). Therefore, it would have been obvious for a person having ordinary skill in the arts at the time of the Applicant's invention to modify the roof tile of Elzey to include fastener-supports extending rearwardly to said datum as taught by Papsdorf to provide support for the fastener.

Regarding claim 14, Elzey modified by Papsdorf discloses a roof tile as discussed above and further discloses that the side waterlock and side overlap are configured to establish side-to-side self-centering adjustment between adjacent tiles when installed onto a roof (as shown in Figure 5).

Regarding claim 16, Elzey modified by Papsdorf discloses a roof tile as discussed above and further discloses that the head lap includes a shelf (J) along the length thereof, and the fastener-receiving formations (6) are raised (7) from said shelf to separate fastener therein from water that may be on the shelf.

Regarding claim 17, Elzey modified by Papsdorf discloses a roof tile as discussed above and further discloses that the fastener-receiving formations (6) are provided with tapered counter-sunk holes (as shown in outline form in Figure 3) to establish a snug fit with correspondingly sized tapered heads of fasteners used to secure the tile to a roof.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elzey in view of Papsdorf as applied to claim 11 above, and further in view of Noone et al. (U.S. Pat. No. 6,178,703 B1).

Regarding claim 12, Elzey modified by Papsdorf discloses a roof tile as discussed above and further discloses that the side waterlock terminates at a closed upper end (18) proximate the top of the head lap and an open lower end (17) proximate but above the bottom (2) of the image section, and the side overlap has an open upper end (24) below the upper closed end (18) of the side waterlock for adjustable top-to-bottom positioning of the side waterlock and side overlap of adjacent installed tiles, and thus for adjustable exposure of the images of said tiles when installed onto a roof, but does not disclose that the side overlap terminates at a closed lower end capable of overlapping the lower open end of an adjacent side waterlock. However, Noone et al. discloses a roof tile where the side overlap (16) terminates at a closed lower end (41) and has an open upper end (38). Therefore, it would have been obvious for a person having ordinary skill in the arts at the time of the Applicant's invention to modify the roof tile of Elzey already modified by Papsdorf to have the side overlap terminate at a closed lower end which is capable of overlapping the lower open end of an adjacent side waterlock as taught by Noone et al. to provide an interlocking relationship with better resistance to rain penetration (see Col 5, Ln 8-13).

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elzey in view of Papsdorf as applied to claim 11 above, and further in view of Fifield et al. (U.S. Pat. No. 5,070,671).

Regarding claim 13, Elzey modified by Papsdorf discloses a roof tile as discussed above, but does not disclose laterally aligned tile-positioning lugs extending rearwardly from the back of the head lap to beyond said datum plane for guided positioning of the roofing tiles onto laterally extending battens on a roof. However, Fifield discloses a roofing tile with laterally aligned tile-positioning lugs (9) extending rearwardly from the back of the head lap (1) to beyond a datum plane (plane established by the surface of 3) for guided positioning of the roofing tiles onto laterally extending battens on a roof. Therefore, it would have been obvious for a person having ordinary skill in the arts at the time of the Applicant's invention to modify the roof tile of Elzey already modified by Papsdorf to have laterally aligned tile-positioning lugs extending rearwardly from the back of the head lap to beyond said datum plane for guided positioning of the roofing tiles onto laterally extending battens on a roof as taught by Fifield et al. to provide a locating means from which to hang the roof tile on the battens (as shown in Figure 12).

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elzey in view of Papsdorf as applied to claim 4 above, and further in view of Bremer (U.S. Pat. No. 2,482,835).

Regarding claim 15, Elzey modified by Papsdorf discloses a roof tile as discussed above and further discloses that the upper water lock (G) includes an upper dam (9) and a side dam (10) on the side of the overlap and a lower water-guide (13) for draining onto the image section, but does not disclose an open side opposite the side dam for draining into the side waterlock. However, Bremer discloses a roof tile wherein there is an open side (a) opposite a side dam (b) for draining into the side waterlock (9). Therefore, it would have been obvious for a person having ordinary skill in the arts at the time of the Applicant's invention to modify the roof tile of Elzey already modified by Papsdorf to have an open side opposite the side dam for draining into the side waterlock as taught by Bremer so that water may drain out of the head lap and into a channel.

Claims 18 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elzey (U.S. Patent No. 1,124,001) in view of Batcheller (U.S. Patent No. 1,740,217), Papsdorf (U.S. Patent No. 4,787,190), and Bremer (U.S. Pat. No. 2,482,835).

Regarding claim 18, Elzey discloses a molded composite roofing tile with a front and a back, a top and bottom, and opposite outer sides; the tile comprising, an image section (1) with a plurality of tile or shingle images (A, B) having backsides (c) raised from a datum plane (D), a substantially constant front-to-back thickness (as shown in Figure 3), bottom edges (2) that establish the bottom of the image section, and outer sides (20, 20a) that establish opposite outer sides of the image section, and a visually

distinct divider (a) extending adjacent each of the images; the back of said image section having support surfaces (E, F) at said datum plane, and reinforcing ribs (4) extending rearwardly to no further than said datum plane; a head lap (G) with an upper waterlock (8) along the top of the image section, the upper waterlock having a shelf (J) extending along the length thereof, an uninterrupted upper dam (9) to resist flow of water over the top of the shelf, an uninterrupted side dam (10) to resist flow of water out one side of the shelf, and an interrupted lower dam (8) for controlled flow of water out the bottom of the shelf toward the image section therebelow, laterally spaced fastener-receiving formations (6) proximate the lower dam, the fastener-receiving formations having pre-formed tapered fastener openings (as shown in outline form in Figure 3) and being raised from the shelf (via 7) to resist water flow into said openings; a side water lock (16) along one of said outer sides of the image section, the side waterlock having a forwardly facing channel (21a) substantially along the length thereof and proximate but above the bottom of the image section; and a side overlap (H) facing rearwardly along the other of said outer sides of the image section, the side overlap being configured for side-to-side adjustable positioning into the side waterlock channel of an adjacent tile when installed onto a roof, the channel and side overlap further having complimentary profiles to establish side-to-side self-centering between adjacent installed tiles (as shown in Figure 5). Elzey does not disclose that said reinforcing ribs are non-uniform and fastener-supports extending rearwardly to said datum, and that the opposite side of the shelf is open for outflow of water from the shelf. However, Batcheller in Figure 2, discloses non-uniform reinforcement ribs (26, 27, 31, 32, 33). Therefore, it would have

been obvious for a person having ordinary skill in the arts at the time of the Applicant's invention to modify the roof tile of Elzey to include non-uniform reinforcement ribs as taught by Batcheller to strengthen the body of the shingle and prevent buckling (see Page 2, Ln125-130). Moreover, Papsdorf discloses a roofing tile with fastener-supports (53) extending rearwardly to a datum plane (plane of line 14). Therefore, it would have been obvious for a person having ordinary skill in the arts at the time of the Applicant's invention to modify the roof tile of Elzey to include fastener-supports extending rearwardly to said datum as taught by Papsdorf to provide support for the fastener. Furthermore, Bremer discloses a roof tile wherein there is an open side (a) opposite a side dam (b) for draining into the side waterlock (9). Therefore, it would have been obvious for a person having ordinary skill in the arts at the time of the Applicant's invention to modify the roof tile of Elzey to have an open side opposite the side dam for draining into the side waterlock as taught by Bremer so that water may drain out of the head lap and into a channel.

Regarding claim 21, Elzey modified by Batcheller, Papsdorf, and Bremer discloses a roof tile as discussed above and further discloses tile stacking guides (K) formed in the head lap capable of receiving the tile-positioning lugs of a second roofing tile stacked thereon.

Regarding claim 22, Elzey modified by Batcheller, Papsdorf, and Bremer discloses a roof tile as discussed above and further discloses that the side waterlock channel (21a) is formed with outwardly sloping sides (shown in Figure 5) capable of establishing said side-to-side adjustable positioning between adjacent installed tiles.

Regarding claim 23, Elzey modified by Batcheller, Papsdorf, and Bremer discloses a roof tile as discussed above and further discloses that front and back of the image section are provided with aligned stacking regions (L, M, edges of a) that are spaced at an equal front-to-back distance from one another and separated top-to-bottom and side-to-side from one another for positioning back stacking regions of a first tile onto front stacking surfaces of a second tile stacked thereon.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elzey in view of Batcheller, Papsdorf, and Bremer as applied to claim 18 above, and further in view of Noone et al. (U.S. Pat. No. 6,178,703 B1).

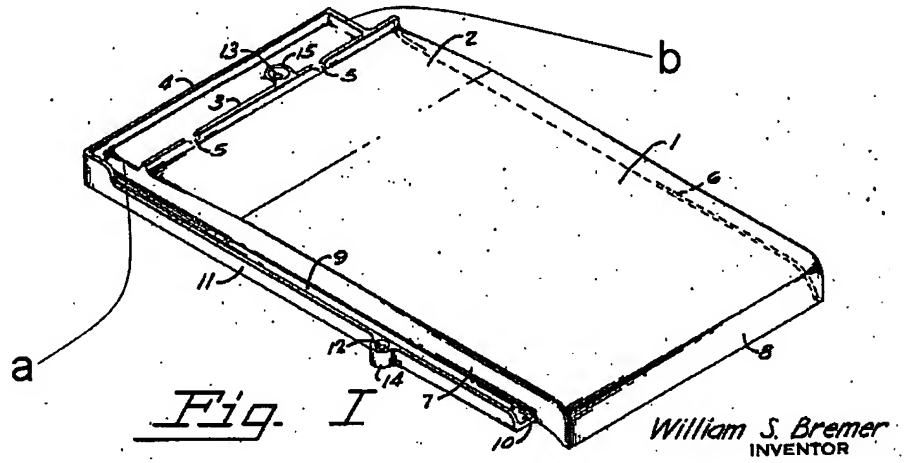
Regarding claim 19, Elzey modified by Batcheller, Papsdorf, and Bremer discloses a roof tile as discussed above and further discloses that the side waterlock terminates at a closed upper end (18) proximate the top of the head lap and an open lower end (17) proximate but above the bottom (2) of the image section, and the side overlap has an open upper end (24) below the upper closed end (18) of the side waterlock for adjustable top-to-bottom positioning of the side waterlock and side overlap of adjacent installed tiles, and thus for adjustable exposure of the images of said tiles when installed onto a roof, but does not disclose that the side overlap terminates at a closed lower end capable of overlapping the lower open end of an adjacent side waterlock. However, Noone et al. discloses a roof tile where the side overlap (16) terminates at a closed lower end (41) and has an open upper end (38). Therefore, it would have been obvious for a person having ordinary skill in the arts at the time of the

Applicant's invention to modify the roof tile of Elzey already modified by Batcheller, Papsdorf, and Bremer to have the side overlap terminate at a closed lower end which is capable of overlapping the lower open end of an adjacent side waterlock as taught by Noone et al. to provide an interlocking relationship with better resistance to rain penetration (see Col 5, Ln 8-13).

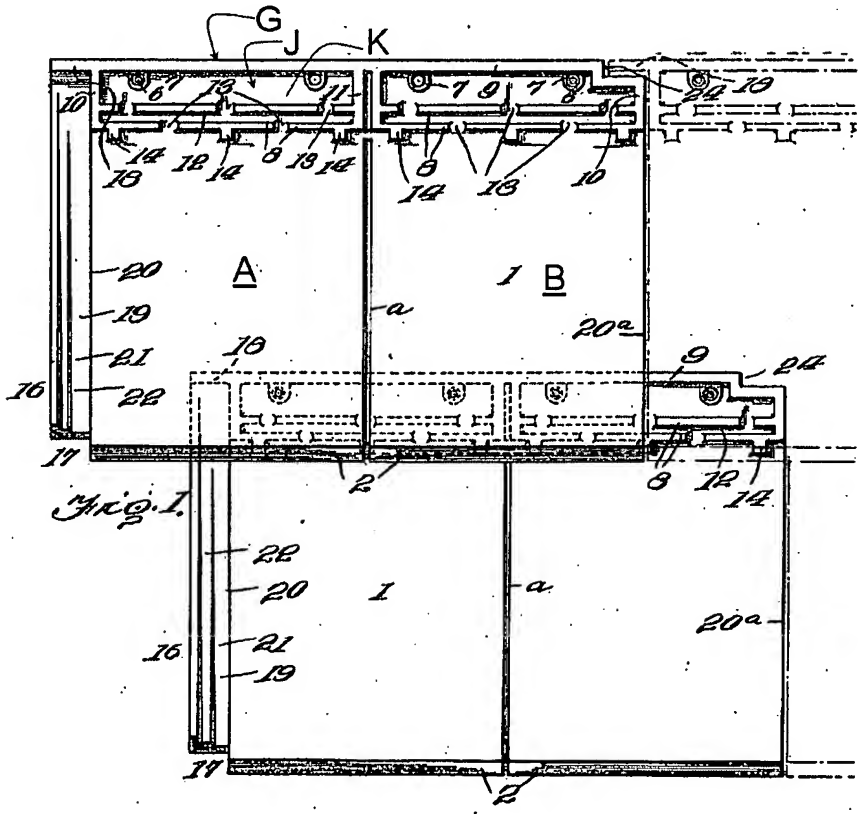
Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elzey in view of Batcheller, Papsdorf, and Bremer as applied to claim 18 above, and further in view of Fifield et al. (U.S. Pat. No. 5,070,671).

Regarding claim 20, Elzey modified by Batcheller, Papsdorf, and Bremer discloses a roof tile as discussed above, but does not disclose laterally aligned tile-positioning lugs extending rearwardly from the back of the head lap to beyond said datum plane for guided positioning of the roofing tiles onto laterally extending battens on a roof. However, Fifield discloses a roofing tile with laterally aligned tile-positioning lugs (9) extending rearwardly from the back of the head lap (1) to beyond a datum plane (plane established by the surface of 3) for guided positioning of the roofing tiles onto laterally extending battens on a roof. Therefore, it would have been obvious for a person having ordinary skill in the arts at the time of the Applicant's invention to modify the roof tile of Elzey already modified by Batcheller, Papsdorf, and Bremer to have laterally aligned tile-positioning lugs extending rearwardly from the back of the head lap to beyond said datum plane for guided positioning of the roofing tiles onto laterally

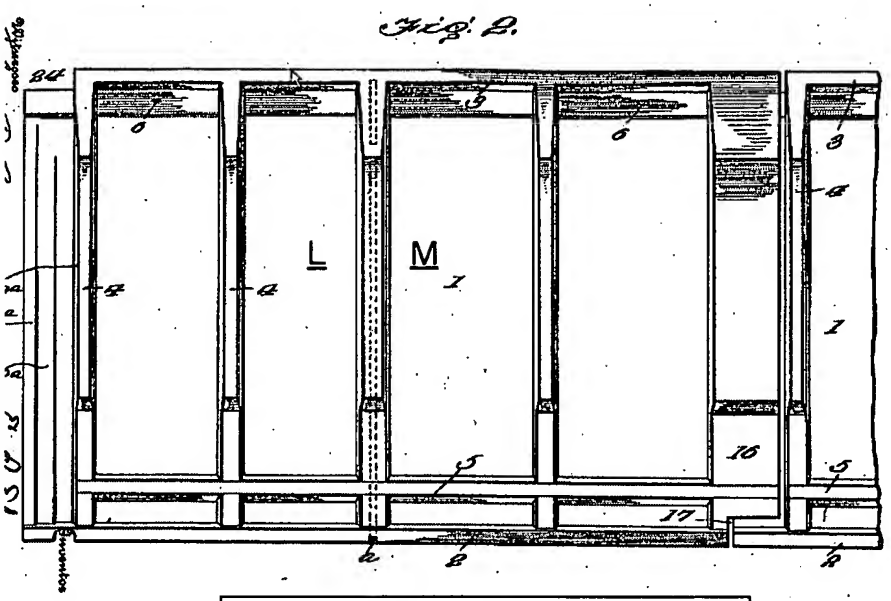
extending battens on a roof as taught by Fifield et al. to provide a locating means from which to hang the roof tile on the battens (as shown in Figure 12).



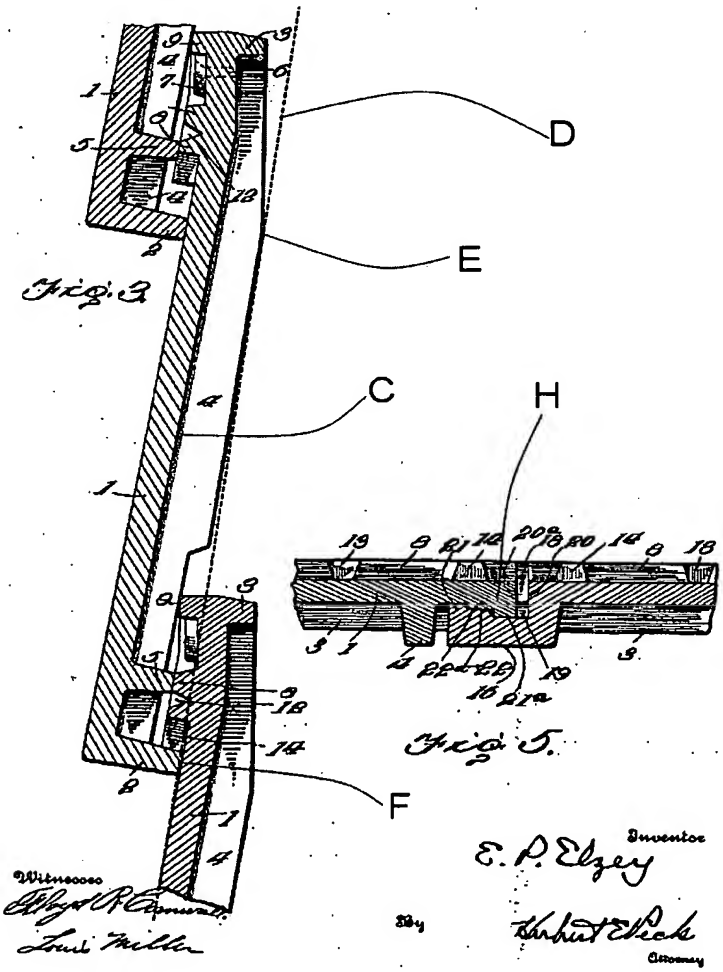
Bremer (U.S. Pat. No. 2,482,835)



Elzey (U.S. Patent No. 1,124,001)



Elzey (U.S. Patent No. 1,124,001)



Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hughes et al. (U.S. Patent No. 1,226,888) a roofing tile with side channels and upper waterlock; Siebenlist (U.S. Patent No. 1,840,537) panel with non-uniform reinforcing ribs; Merrill (U.S. Patent No. 592,474) a roofing panel with side water lock; Kremper (U.S. Patent No. 2,002,244) a roofing tile with stacked mid sections; Crick et al. (U.S. Patent No. 5,249,402) a covering with drainage passages; Beetler et al. (U.S. Design Patent No. D518,902 S) a roofing panel; Bethke (CH 603965 A5) a roofing tile with slide lock features.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine T. Cajilig whose telephone number is (571) 272-8143. The examiner can normally be reached on Monday - Friday from 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lanna Mai can be reached on (571)272-6867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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